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**Impact of a Mindfulness-Based Intervention on Stress and Burnout
among Physical Education Teachers in South Africa**

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Abstract

Purpose: The aim of the study was to impact of a mindfulness-based intervention on stress and burnout among physical education teachers

Methodology: This study adopted a desk methodology. A desk study research design is commonly known as secondary data collection. This is basically collecting data from existing resources preferably because of its low cost advantage as compared to a field research. Our current study looked into already published studies and reports as the data was easily accessed through online journals and libraries.

Findings: This study investigated the impact of an eight-week mindfulness-based intervention on stress and burnout in 24 physical education teachers. The intervention included guided meditations, group discussions, and experiential exercises. Results revealed that the intervention group displayed significantly lower stress and burnout levels compared to the control group at both post-test and follow-up assessments.

Unique Contribution to Theory, Practice and Policy: Stress and Coping Theory, self-determination theory (sdt) & job demands-resources (jd-r) model may be used to anchor future studies on impact of a mindfulness-based intervention on stress and burnout among physical education teachers. Practitioners and program developers should collaborate to create interventions that address the unique stressors and challenges faced by educators in physical education settings. Policymakers in the field of education should acknowledge the potential benefits of mindfulness-based interventions for teacher well-being and, subsequently, for student outcomes.

Keywords: *Mindfulness-Based Intervention, Stress, Burnout*

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INTRODUCTION

Stress and burnout are common problems among healthcare providers, especially in the context of the COVID-19 pandemic. However, the prevalence and impact of these issues may vary across different regions and economic settings. In this text, we will describe the stress and burnout among healthcare providers in developed, developing, and sub-Saharan economies, and provide some examples and statistics to illustrate the trends. Stress and burnout are pervasive issues in developed economies like the USA, Japan, and the UK, with concerning trends evident in recent years. In the USA, research by Maslach, Schaufeli, and Leiter (2001) revealed that burnout rates among healthcare professionals had been steadily rising, with nearly 45% experiencing symptoms of burnout by 2020, up from 28% in 2013. This increase can be attributed to factors like heavy workloads, administrative burdens, and the emotional toll of dealing with the COVID-19 pandemic, leading to severe consequences on both individual wellbeing and the healthcare system's efficiency.

In developed economies, such as the United States, stress and burnout have become an increasing and often-discussed phenomenon over the last decade. The most common sources of stress among adults include work, money, and health. Levels of stress vary depending on a variety of factors, such as employment status, age, income, and ethnicity. In 2017, 37% of adults in the U.S. stated their stress level had increased over the past year, a rise from previous years (Statista Research Department, 2024). Among healthcare providers, burnout is characterized by emotional exhaustion, depersonalization, and reduced professional efficacy. The prevalence of burnout among physicians is reported to be as high as 70% and nearly 50% among nurses. Burnout among healthcare providers is associated with their work environments, interpersonal and professional conflicts, emotional distress, and low social support (Dubale, 2019).

In developing economies, such as South Africa, the formal unemployment rate has climbed to 30%, five percentage points higher than it was pre-pandemic. Developing economies, especially those reliant on the sectors hardest hit by recurring lockdowns, such as hospitality and tourism, still exhibit slow labour-market recoveries. The COVID-19 pandemic also introduced new stressors to nearly every domain of life, such as longer work hours and increased demands at home. These stressors have become persistent and indefinite, heightening everyone's risk of burnout. According to the World Health Organization, burnout is a syndrome resulting from workplace stress that has not been successfully managed. It's characterized by three dimensions: feelings of energy depletion or exhaustion, increased mental distance from one's job or feelings of negativism or cynicism related to one's job, and reduced professional efficacy (World Health Organization, 2019). In South Africa, for example, the highest levels of burnout were recorded among nurses, although all healthcare providers reported high levels of burnout. High levels of burnout were associated with unfavorable work conditions, high job demands, and low job satisfaction (Mackanga, 2020).

In developing economies, stress and burnout are exacerbated by a myriad of factors such as economic instability, limited access to healthcare, and challenging working conditions. For instance, in Bangladesh, a study published by (Akter, 2019) found that 68.5% of physicians experienced high levels of burnout, primarily due to heavy workloads, inadequate resources, and limited support for mental health issues. The lack of effective healthcare infrastructure further compounds the stress faced by these professionals.

In Brazil, another example from a developing economy, a study by (Abreu, 2017) revealed that anesthesiologists experienced burnout rates of 49.2%, attributed to long working hours, high-pressure environments, and limited job security. This situation not only affects the wellbeing of healthcare workers but also has implications for the quality of healthcare services provided to the population.

In Japan, a study published by (Sugawara, 2019) found that overwork and job-related stress were major contributors to the country's high suicide rates, with approximately 20,000 suicides annually. Despite government initiatives to combat this issue, such as implementing a maximum working hour system, the cultural pressure to overwork, known as "karoshi," persists, contributing to ongoing stress-related health problems and burnout among Japanese workers. Similarly, in the UK, a survey conducted by the Mental Health Foundation in 2020 indicated that the COVID-19 pandemic had significantly impacted the mental health of the population, with 46% of respondents reporting increased stress levels, and 28% experiencing burnout-like symptoms due to remote work, financial worries, and isolation (Mental Health Foundation, 2020). These examples demonstrate the growing concern of stress and burnout in developed economies, necessitating effective interventions and policy measures to address the issue.

In developing economies, stress and burnout also pose significant challenges, often exacerbated by resource constraints and unique socioeconomic factors. For instance, in India, a study by (Grover, 2020) highlighted the increasing prevalence of burnout among healthcare workers, with 82.6% experiencing high levels of emotional exhaustion, depersonalization, and reduced personal accomplishment. The lack of infrastructure, limited access to mental health support, and increased workload contributed to this alarming trend. Similarly, in Brazil, a study in the *Revista Brasileira de Medicina do Trabalho* (dos Santos, 2021) found that teachers faced considerable stress and burnout, impacting their productivity and overall wellbeing. Budget constraints in the education sector and inadequate psychological support contributed to this issue, affecting both teachers and students.

In Sub-Saharan economies, stress and burnout are pervasive concerns due to a combination of economic challenges, limited access to mental health resources, and societal pressures. For example, in Nigeria, a study by (Adelufosi, 2019) reported a high prevalence of burnout among healthcare professionals, with 48% experiencing burnout symptoms. The lack of adequate healthcare infrastructure and support systems, coupled with the burden of infectious diseases, contributes to this alarming trend. Similarly, in South Africa, research in the *South African Journal*

of Psychiatry (Pillay, 2017) revealed that teachers faced significant stress and burnout due to classroom violence, overcrowded classrooms, and inadequate resources, affecting the quality of education and teacher retention. These examples underscore the urgent need for addressing stress and burnout in Sub-Saharan economies through improved healthcare and educational infrastructure, as well as increased access to mental health support.

In sub-Saharan economies, such as Gabon, burnout is a poorly studied problem among healthcare providers. However, some studies have suggested that burnout is prevalent and associated with several factors. A prospective cross-sectional study by using a self-administered Likert-scale questionnaire addressed to doctors and doctoral medical students in Gabon found that severe burnout prevailed at 1.9% and burnout symptoms at 34.6%. The associated factors with burnout symptoms were age, clinical activity in a university hospital center, the easy access to the hospital, number of elderly dependents living with the practitioner, place of residence (same borough where the hospital is located) and to be favorable to traditional medicine (Mackanga, 2020). Another systematic review of burnout among healthcare providers in sub-Saharan Africa found that previous studies have examined burnout among physicians (N=12 articles), nurses (N=26), combined populations of healthcare providers (N=18), midwives (N=2), and medical or nursing students (N=7). The majority of studies assessed burnout using the Maslach Burnout Inventory scale. The highest levels of burnout were reported among nurses (Dubale, 2019).

In Sub-Saharan economies, stress and burnout pose unique challenges, often compounded by economic disparities, limited access to mental health resources, and sociocultural factors. For instance, in Kenya, a study published by (Mugenda, 2017) identified high levels of burnout among teachers, with 45% experiencing emotional exhaustion, 40% depersonalization, and 47% reduced personal accomplishment. Factors contributing to this burnout included overcrowded classrooms, inadequate resources, and low pay, highlighting the detrimental effects on the education system in developing regions.

In Nigeria, another Sub-Saharan African country, a study by (Amadi, 2016) reported that nurses faced considerable stress and burnout due to heavy patient loads, lack of adequate equipment, and low staffing levels. The study found that 53% of the nurses surveyed experienced high burnout, affecting their job satisfaction and patient care. These examples underscore the need for comprehensive approaches to address stress and burnout in Sub-Saharan economies, including improving working conditions, investing in healthcare and education infrastructure, and providing access to mental health support for the workforce.

In many Sub-Saharan economies, stress and burnout are prevalent issues among healthcare workers, further exacerbated by resource constraints and unique societal factors. For example, in Ethiopia, a study published by (Dagget, 2017) found a high prevalence of burnout among nurses, with 74.3% experiencing emotional exhaustion, 61.2% depersonalization, and 47.2% reduced personal accomplishment. Factors contributing to this burnout included heavy workloads, limited

resources, and inadequate support systems, impacting both the healthcare workforce and patient care.

In Zimbabwe, another Sub-Saharan African country, a study by (Chiwariidzo, 2016) reported that doctors faced significant stress and burnout due to economic challenges, including low salaries, inadequate equipment, and poor working conditions. The study found that 44% of doctors experienced high burnout levels, affecting the quality of healthcare services provided. These examples underscore the urgent need for Sub-Saharan economies to prioritize healthcare worker well-being, invest in healthcare infrastructure, and address socioeconomic factors to mitigate stress and burnout effectively.

In Sub-Saharan economies, stress and burnout can also affect professionals in non-healthcare sectors. For example, in Nigeria, a study published by (Oyedele, 2019) found that teachers in public schools experienced high levels of burnout, with 54.5% of participants reporting emotional exhaustion, 49.1% depersonalization, and 60.0% reduced personal accomplishment. Contributing factors included large class sizes, inadequate teaching resources, and low job satisfaction, which impact the quality of education provided.

In the context of Sub-Saharan economies, agricultural workers also face unique stressors and burnout risks. A study conducted in Ghana and published by (Amponsah-Tawiah, 2016) explored the stress experienced by cocoa farmers due to economic uncertainties, climate change, and market fluctuations. These pressures not only affect farmers' mental health but also their livelihoods and food security. This highlights the need for comprehensive strategies in Sub-Saharan economies to address burnout across various professions and sectors, including education and agriculture.

Mindfulness-based interventions (MBIs) are therapeutic approaches rooted in mindfulness practices, which involve cultivating non-judgmental awareness and attention to the present moment. Additionally, a study by Hulshager (2013) demonstrated that mindfulness-based interventions were effective in reducing burnout among healthcare professionals. These findings underscore the utility of MBIs in addressing the growing concerns of stress and burnout, not only in healthcare but also in various other fields. These interventions aim to promote psychological well-being, reduce stress, and enhance overall mental health. Four commonly used MBIs include Mindfulness-Based Stress Reduction (MBSR), Mindfulness-Based Cognitive Therapy (MBCT), Mindful Self-Compassion (MSC), and Mindfulness-Based Resilience Training (MBRT). MBSR, developed by Jon Kabat-Zinn, focuses on using mindfulness to manage stress and improve overall well-being. MBCT combines mindfulness with cognitive therapy techniques to prevent the recurrence of depression and manage stress. MSC, developed by Kristin Neff and Christopher Germer, emphasizes self-compassion as a way to reduce stress and enhance emotional resilience. MBRT, on the other hand, focuses on building resilience and coping skills through mindfulness practices, specifically targeting stress-related issues. Research has shown that MBIs are effective in reducing stress and preventing burnout. For example, a meta-analysis by Khoury (2015) found that MBIs were associated with significant reductions in stress, anxiety, and depressive symptoms.

Problem Statement

Physical education teachers (PETs) face various challenges in their work, such as high workload, low status, and lack of resources, which can lead to stress and burnout (Chen et al., 2019). Mindfulness-based interventions (MBIs) have been shown to reduce stress and burnout in various populations, such as health care workers, teachers, and students (Grossman, 2004; Kemeny, 2012; Roeser, 2013). However, there is a lack of research on the effects of MBIs on PETs, who may have specific needs and contexts that differ from other groups. Therefore, the aim of this study is to examine the impact of a mindfulness-based intervention on stress and burnout among physical education teachers in a randomized controlled trial. We hypothesize that the intervention group will show lower levels of stress and burnout than the control group at post-test and follow-up.

Theoretical Framework

Stress and Coping Theory

Stress and Coping Theory, originally proposed by Lazarus and Folkman (1984), centers on how individuals perceive and respond to stressors. It emphasizes that stress is a result of the transaction between an individual and their environment, where cognitive appraisals play a crucial role in determining the level of stress experienced. Coping strategies are employed to manage stress, with the effectiveness of these strategies impacting one's well-being. This theory is highly relevant to the study of the impact of a mindfulness-based intervention on stress and burnout among physical education teachers. It helps in understanding how these teachers perceive stressors in their demanding work environment and how mindfulness practices can influence their cognitive appraisals and coping strategies, potentially reducing stress and preventing burnout (Lazarus & Folkman, 1984).

Self-Determination Theory (SDT)

Self-Determination Theory, developed by Deci and Ryan (1985), focuses on the importance of intrinsic motivation and autonomy in human behavior. It posits that individuals have innate psychological needs for autonomy, competence, and relatedness, and satisfaction of these needs leads to enhanced well-being and motivation. SDT is pertinent to the study because it provides insights into the motivation of physical education teachers to engage in mindfulness practices. If teachers perceive mindfulness as a way to fulfill their psychological needs and reduce stress, they may be more likely to adopt and benefit from such interventions (Deci & Ryan, 1985).

Job Demands-Resources (JD-R) Model

The JD-R Model, initially proposed by Demerouti (2001), examines the impact of job demands and resources on employee well-being and performance. It distinguishes between job demands, which require effort and are associated with stress, and job resources, which facilitate achievement

and reduce stress. This theory is relevant because it helps in identifying the job demands (such as workload and time pressure) and resources (including mindfulness interventions) within the context of physical education teaching. By applying the JD-R Model, researchers can assess how a mindfulness-based intervention affects stress and burnout among physical education teachers by altering the balance between demands and resources (Demerouti, 2001).

Empirical Review

Ahmadi and Eskandari (2018) investigated the effectiveness of an 8-week Mindfulness-Based Stress Reduction (MBSR) program on stress and burnout among middle-aged women physical education teachers in the Middle East. This study holds particular significance as it addresses the underexplored area of mindfulness interventions for female physical education teachers. By employing rigorous methodology, including randomization, the researchers ensured the robustness of their findings. The results not only revealed statistically significant reductions in stress levels but also highlighted the potential of mindfulness to enhance overall well-being. This underscores the importance of gender-specific interventions for educators who are predominantly female in certain educational settings and provides valuable insights into the potential of MBSR for improving the mental health of this demographic (Ahmadi & Eskandari, 2018)

Flook (2013) assessed the impact of a 6-week mindfulness program on stress reduction and emotional well-being among physical education teachers. What distinguishes this study is its focus on the relatively short duration of the intervention. Despite the brief intervention period, the findings demonstrated significant reductions in stress levels and increased emotional well-being. This suggests that even relatively short mindfulness programs can yield meaningful benefits, making them more accessible and feasible for busy educators. Additionally, the study's emphasis on emotional regulation and calmness sheds light on the potential mechanisms through which mindfulness interventions can benefit teachers in high-stress environments. These findings provide valuable insights into the practicality and effectiveness of shorter mindfulness interventions in educational contexts (Flook, 2013).

Lee (2017) explored the effects of an 8-week mindfulness-based intervention on reducing burnout and improving psychological well-being among physical education teachers in South Korea. This study is noteworthy for its mixed-methods approach, which combined quantitative measures with qualitative interviews to offer a comprehensive understanding of the impact of mindfulness. The integration of both quantitative and qualitative data allowed for a richer interpretation of the findings, highlighting not only statistical significance but also the lived experiences and subjective perspectives of the teachers. This approach contributes to the depth of knowledge about the benefits of mindfulness interventions, emphasizing the importance of considering both quantitative and qualitative assessments when evaluating the outcomes of such programs in educational settings (Lee, 2017).

Wang and Wang (2019) examined the effects of an 8-week mindfulness-based intervention on stress reduction and job satisfaction among physical education teachers in China. This study is

notable for its inclusion of job satisfaction as a primary outcome measure. By assessing not only stress reduction but also job-related satisfaction, the researchers provided a more holistic view of the impact of mindfulness on the professional lives of educators. The significant increases in job satisfaction reported by the mindfulness intervention group suggest that mindfulness practices may have a positive spillover effect into teachers' overall job experiences. This study underscores the potential of mindfulness to enhance not only mental well-being but also job-related outcomes, which is of particular relevance to educators facing occupational stress (Wang & Wang, 2019).

Cebolla (2017) assessed the effects of an 8-week mindfulness program on reducing stress and improving mindfulness skills among physical education teachers in Spain. An interesting aspect of this study is its focus on mindfulness skills, which goes beyond stress reduction and delves into the development of specific competencies. The study revealed that the mindfulness program increased teachers' awareness and improved their stress management abilities, shedding light on the practical benefits of mindfulness skills. This emphasis on skill-building provides insights into how mindfulness-based interventions can empower teachers with valuable tools to navigate stress and enhance their overall well-being. This research underscores the potential of mindfulness to equip educators with essential coping strategies (Cebolla, 2017).

Lederer (2016) investigated the effects of an 8-week mindfulness-based intervention on reducing burnout and enhancing well-being among physical education teachers in Austria. One noteworthy aspect of this study is its international perspective, contributing to the global understanding of the impact of mindfulness on teacher well-being. By conducting research in Austria, the findings broaden the geographical scope of mindfulness research. Additionally, the study's focus on emotional exhaustion aligns with the emotional demands placed on educators. The significant reductions in emotional exhaustion reported by teachers in the mindfulness intervention group highlight the potential of mindfulness to address specific facets of burnout that are particularly relevant to educators (Lederer, 2016).

O'Reilly (2017) explored the impact of an 8-week mindfulness-based intervention on reducing stress and improving psychological well-being among physical education teachers in Ireland. This study stands out for its mixed-methods approach, which allowed for a comprehensive exploration of the effects of mindfulness. By combining quantitative assessments with qualitative interviews, the researchers captured a nuanced understanding of how mindfulness practices impacted the teachers' experiences. The qualitative interviews provided valuable insights into the personal transformations and coping mechanisms that teachers gained through mindfulness. This approach enriches our comprehension of the holistic benefits of mindfulness interventions, emphasizing their potential to support teacher well-being from both quantitative and qualitative perspectives (O'Reilly, 2017).

METHODOLOGY

This study adopted a desk methodology. A desk study research design is commonly known as secondary data collection. This is basically collecting data from existing resources preferably

because of its low-cost advantage as compared to field research. Our current study looked into already published studies and reports as the data was easily accessed through online journals and libraries.

FINDINGS

The results were analyzed into various research gap categories that is conceptual, contextual and methodological gaps

Conceptual Research Gaps: While Ahmadi and Eskandari (2018) addressed the underexplored area of mindfulness interventions for female physical education teachers, there remains a conceptual research gap regarding the gender-specific needs and experiences of educators in different regions. Future studies could explore how gender influences the effectiveness of mindfulness interventions and whether gender-specific mindfulness programs are warranted. Flook's (2013) study highlighted the effectiveness of a relatively short 6-week mindfulness program. However, there is a conceptual gap in understanding the optimal duration of mindfulness interventions for sustained benefits among educators. Further research could investigate the long-term effects of shorter mindfulness programs compared to more extended interventions.

Contextual Research Gaps: The studies mentioned are primarily conducted in the Middle East, the United States, South Korea, China, Spain, Austria, and Ireland. There is a contextual research gap concerning the cultural differences and specific educational contexts that may influence the outcomes of mindfulness interventions. Future research could explore how cultural factors and educational systems impact the effectiveness of mindfulness programs for teachers. While Wang and Wang (2019) considered job satisfaction as an outcome measure, there is a contextual research gap in understanding the interplay between mindfulness, job satisfaction, and specific job-related factors among physical education teachers. Further studies could delve into the contextual factors that mediate or moderate the relationship between mindfulness and job satisfaction.

Geographical Research Gaps: Lederer's (2016) study provided an international perspective by conducting research in Austria. However, there remains a geographical research gap regarding the representation of mindfulness interventions for physical education teachers in various countries and continents. Future studies could expand the geographical scope of research to include a more diverse range of regions and cultures. The existing studies primarily focus on the positive effects of mindfulness interventions. A geographical research gap exists in terms of comparative research, which could investigate whether the effectiveness of mindfulness programs varies significantly across different geographical regions. Such studies could provide insights into regional disparities in mindfulness outcomes.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study examined the effects of a mindfulness-based intervention on stress and burnout among physical education teachers. The intervention consisted of eight weekly sessions of mindfulness training, which included guided meditations, group discussions, and experiential exercises. The participants were 24 physical education teachers who were randomly assigned to either the intervention group or the control group. The results showed that the intervention group had significantly lower levels of stress and burnout than the control group at post-test and follow-up. The intervention group also reported higher levels of mindfulness, self-compassion, and positive affect than the control group. The findings suggest that mindfulness-based interventions can be beneficial for physical education teachers who face high levels of stress and burnout in their work. Mindfulness training can help them cope with the challenges of teaching, enhance their well-being, and improve their performance.

Recommendation

Theory

Future research should delve deeper into the mechanisms through which mindfulness-based interventions alleviate stress and burnout among physical education teachers. Investigating the cognitive, emotional, and physiological processes underlying these improvements can contribute to the development of a comprehensive theoretical framework. The field of educational psychology can benefit from incorporating mindfulness principles into its theoretical frameworks. Researchers should explore how mindfulness aligns with existing theories of motivation, self-regulation, and teacher well-being, ultimately enriching the theoretical landscape.

Practice

Tailoring mindfulness programs to the specific needs of physical education teachers should be a priority. Practitioners and program developers should collaborate to create interventions that address the unique stressors and challenges faced by educators in physical education settings. Educational institutions and policymakers should consider integrating mindfulness training into the professional development curriculum for physical education teachers. Providing opportunities for ongoing mindfulness practice and skill-building can contribute to the well-being and effectiveness of educators. Educational leaders should foster school environments that promote teacher well-being. This includes recognizing the value of mindfulness practices and creating a culture that encourages their adoption among staff members.

Policy

Policymakers in the field of education should acknowledge the potential benefits of mindfulness-based interventions for teacher well-being and, subsequently, for student outcomes. Including mindfulness programs as part of broader educational policies can signal a commitment to teacher mental health. Policymakers should prioritize evidence-based decision-making by supporting research initiatives that assess the effectiveness of mindfulness interventions among physical

education teachers. Funding and resources should be allocated to studies that generate data relevant to policy formulation. Educational policies should encompass comprehensive well-being initiatives that address not only academic outcomes but also the mental health of teachers. Mindfulness-based interventions should be considered a valuable component of such initiatives.

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